

Appl. No. 10/076,718
Amdt. Dated November 5, 2003
Reply to Office Action of August 5, 2003

REMARKS/ARGUMENTS

Claims 1-29 are pending in the application. Pursuant to a restriction requirement, the Applicants elected claims 1 – 16 and 26 – 29. Claims 17 – 25 have been cancelled, and have been withdrawn from consideration. Claims 1 – 7, 10 – 16, and 26 – 29 have been rejected under 35 U.S.C. Section 103(a) as unpatentable over U.S. Patent Number 5,250,893 to Gambill in view of U.S. Patent Number 5,877,618 to Luebke. Reconsideration of the claims in view of the following remarks is respectfully requested.

Claims 1 – 12 and 26 - 28

Independent claims 1 and 26 each provide an electronic testing device which includes a display for displaying voltage levels, a pair of electrical contact test probes, and a non-contact voltage sensor. A non-contact AC voltage detect circuit is electrically coupled to the non-contact sensor and to a voltage indicator for indicating that the non-contact voltage sensor has been placed in the presence of an AC voltage.

Gambill discloses an auto-ranging digital voltmeter for testing voltage levels in live electrical circuits. The voltmeter automatically determines the proper mode of operation for the type of voltage present, e.g. AC or DC voltages. The device includes two probes, and a digital display for displaying the type and magnitude of a voltage found between the two probes. The meter is designed specifically to work over a wide range of both AC and DC values, and to prevent “explosions” due to overvoltage conditions (see column 1, lines 45 – 49; column 3, lines 10 – 14). The voltmeter is, furthermore, designed to positively indicate when no voltage is present in a test circuit (see column 2, lines 56 – 58).

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Appl. No. 10/076,718
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Luebke discloses a hand-held non-contact AC voltage sensor which includes an indicating lamp for providing an indication that the non-contact voltage sensor is operational when it is switched on. Non-contact AC voltage sensors without this feature, however, have been known for many years, as is shown in the background section of Luebke, where a number of such devices are listed. These devices detect the presence of an AC voltage in a conductor without the need to make a physical electrical connection.

In the Office Action, it is asserted that it would have been obvious to one of ordinary skill in the art at the time the invention was made to have combined the meter of Gambill with the non-contact voltage sensor of Luebke to notify the operator to exercise caution at a test surface. While the Applicants agree that notifying a user is certainly a reason for using a non-contact voltage sensor, this objective does not provide a motivation to combine the device with a voltage meter which is intended to be operated with a live wire.

Non-contact voltage sensors have, in the prior art, been known to be “stand alone” instruments, used to warn a user prior to touching a live wire. In these cases, the user is expecting, and desires, a dead wire. In the case of a meter, such as the one taught by Gambill, however, the opposite is true. Here, the entire purpose of the device is to measure voltages across live conductors. That device, by itself, will inform a user whether the wire is live or not. A user approaching a conductor with such a meter is, therefore, not expecting to find a dead wire, but if it is dead, the user can determine it with the Gambill device. The user would not be caught “off guard” by discovering that the wire being probed is, in fact, live, and therefore does not

Appl. No. 10/076,718
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require a warning. There is no disclosure or suggestion in the prior art making obvious the combination of a contact detector, as in Gambill, with a non-contact detector as in Luebke.

Additionally, the auto-ranging voltage meter taught by Gambill, is, as are all meters, designed with insulated probes which are intended to prevent shock or other danger to the user as the user attaches the probes to a live electrical circuit, and are therefore significantly different from the conductive hand tools described above. The Gambill device in particular is designed specifically to provide safe measurement for both AC and DC voltages over a wide range of values, also as described above, while used with live circuits. The device disclosed by Gambill therefore does not suggest the need for a "warning". On the contrary, it is designed specifically to limit any such need, and therefore teaches away from the concept. This point is emphasized by the fact that, although Gambill specifically describes a variety of safety features at column 2, lines 43 – 47, and non-contact voltage sensors were available at the time of filing, he fails to incorporate, or even suggest the desirability of incorporating a non-contact voltage sensing device. Additionally, since probes which are capable of detecting both a variety of voltage levels and zero voltage levels are provided, there is no need for additional equipment to detect voltage conditions.

In addition, Gambill is an AC/DC detector, as are most contact voltmeters. There is no disclosure or suggestion in the prior art or record rendering it obvious to combine an AC/DC contact detector with an AC noncontact tester, as now claimed.

The Applicants therefore submit that it is not obvious to combine the cited references, and in fact, that the references teach away from the cited combination.

Appl. No. 10/076,718
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Therefore, the Applicants respectfully request that the rejection under 35 U.S.C. Section 103(a) of independent claims 1 and 26, and dependent claims 2– 12 and 27 – 28 be withdrawn.

Claims 13 – 16 and 29

Independent claims 13 and 29 each recite a voltage detect circuit electrically coupled to at least one of the pair of electrical testing probes and to the voltage sense indicator. The voltage detect circuit is activated and provides an indication to the user when one electrical testing probe is electrically coupled to a conductor having a voltage impressed thereon, even when the other of the pair of electrical testing probes is not contacting any conductor. The probe, therefore, provides single probe contact detection of an AC voltage.

Neither Gambill nor Luebke discloses a single probe capable of contact detection of an AC voltage impressed on a conductor. Luebke discloses a non-contact voltage detection probe. Gambill discloses a two probe voltage measuring system, each of the probes being required to detect a voltage.

The Office Action cites column 4 lines 32 – 62 as illustrating a single probe contact feature. The cited paragraph, however, merely illustrates a block diagram of the circuits of Figs. 3A –3B, as described in the Brief Description of the Drawings. The “terminal 30” is clearly equivalent to the external positive and negative probes 50 of Fig. 3A, and therefore is constructed of two and not one probe. The description, moreover, does not describe any method for detecting a voltage with a single probe. Therefore, neither of the cited references teaches or suggests a single probe contact detection of a voltage, and the cited references cannot be combined to render the

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Appl. No. 10/076,718
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invention as recited in claims 13, 29 and associated dependent claims 14 – 16 obvious. The Applicants, therefore, respectfully request that the rejection of these claims be withdrawn.

Conclusion

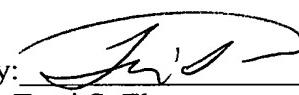
In view of the foregoing remarks, the Applicants believe that claims 1 – 16 and 26 – 29 are in condition for allowance, and respectfully request that the rejection of these claims under 35 U.S.C. Section 103(a) be withdrawn, and that a notice of allowance be issued.

No fee is believed necessary. However, if a fee is required please charge it to Deposit Account 17-0055.

Respectfully submitted,

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